



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 10/037,094 | 10/25/2001 | Masafumi Inoue | MAT-8195US | 5899 |

7590

11/14/2003

Lawrence E. Ashery
Ratner & Prestia
Suite 301, One Westlakes, Berwyn
P.O. Box
Valley Forge, PA 19482-0980

EXAMINER

NGUYEN, DONGHAI D

ART UNIT

PAPER NUMBER

3729

DATE MAILED: 11/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/037,094

Applicant(s)

INOUE ET AL.

Examiner

Donghai D. Nguyen

Art Unit

3729

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 September 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. The proposed reply filed on September 25, 2003 has been entered as Paper No. 5.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 1-7 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase “before said printer” (claim 1, lines 20-21 and claim 3, lines 24-25) is vague and indefinite. It is unclear how the board inspection unit situated (located, placed, positioned, set, sited) before the printer.

The phrase “feedback and/or feedforward” (claim 3, line 16 and claim 7, line 2) is vague and indefinite. It is uncertain what is the scope of the claims

Furthermore, two phrases above seem to be failed to comply with the enablement requirement. The claims contain subject matter, which may not describe in the specification.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

Art Unit: 3729

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1-7 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5,564,183 to Satou et al.

Regarding to claim 1, Satou et al. disclose a component mounting system configured by connecting a plurality of devices, the component mounting system comprising: a printer (4) for printing solder onto an electrode formed on the board (32); a first inspection unit (5) for detecting a position of the printed solder (31) and outputting a solder position detection result (21); a component mounting unit (2) for picking up the component, and placing the component on the board; a second inspection unit (8) for detecting a position of the component placed and outputting a component position detection result (23); a soldering unit (3) for soldering the component onto the board by heating and melting the solder; a main controller (28) for updating at least one of a control parameter for controlling an operation of the printer and a control parameter for controlling an operation of the component mounting unit based on at least one of the solder position detection result and the component position detection result (Fig. 1); and a board inspection unit (138/148, see Fig. 15) for inspecting the electrode and evaluating positional deviation of the electrode (Fig. 2, Col. 18, lines 15-30), the board inspection unit situated before the printer (Fig. 15).

Regarding claim 2, Satou et al. disclose a third inspection unit (11) for inspecting a mounting condition by recognizing the component after the soldering, and outputting a mounting inspection result (25).

Art Unit: 3729

Regarding claim 3, Satou et al. disclose a component mounting system configured by connecting a plurality of devices for manufacturing a mounted board by placing and soldering a component onto the board, the component mounting system comprising: printer (4); a first inspection unit (5) for detecting a position and outputting a solder position detection result (21); a component mounting unit (2); a second inspection unit (8) and outputting a component position detection result (23); a soldering unit (3); a third inspection unit (11) and outputting a mounting inspection result (25) the updating of the main controller based on feedback or feedforward processing of the solder position detection result and the component position detection result (Figs. 4-8, Col. 19, line 61 to Col. 20, line 7); abnormality evaluation means (22, 24, 26, 27, and 28) for determining the presence of any abnormal operation in at least one of the printer, the component mounting unit, and the soldering unit based on at least one of the solder position detection result, the component position detection result, and the mounting inspection result (Fig. 1); and a board inspection unit (138/148, see Fig. 15) for inspecting the electrode and evaluating positional deviation of the electrode (Fig. 2, Col. 18, lines 15-30), the board inspection unit situated before the printer (Fig. 15).

Regarding claim 4, Satou et al. disclose a component (7) mounting method comprising: a printing step (Col. 6, lines 44-47) using a printer (4); a solder position detection step (Col. 6, lines 47-50) using a first inspection unit (5); a placement step (Col. 6, lines 50-52) using a mounting head (7) in a component mounting unit (2); a component position detection step (Col. 6, lines 52-54) using a second inspection unit (8); a soldering step (Col. 6, line 56) using a soldering unit (3); and an inspecting step before the printing (138/148, see Fig. 15) for inspecting

Art Unit: 3729

the electrode and evaluating positional deviation of the electrode (Fig. 2, Col. 18, lines 15-30); wherein at least one of a control parameter (22) for controlling an operation of the printer and a control parameter (24) for controlling an operation of the component mounting unit is updated based on at least one of the solder position detection result (21); and the component position detection result (23) while executing the steps.

Regarding claim 5, Satou et al. disclose a mounting inspection step (Col. 6, lines 58-60) using a third inspection unit (11); wherein a control parameter (26) for controlling an operation of the soldering unit is updated based on the mounting inspection result (25).

Regarding claim 6, Satou et al. disclose a component mounting method comprising: a printing step (Col. 6, lines 44-47) using a printer (4); a solder position detection step (Col. 6, lines 47-50) using a first inspection unit (5); a placement step (Col. 6, lines 50-52) using a mounting head (7) in a component mounting unit (2); a component position detection step (Col. 6, lines 52-54) using a second inspection unit (8); and a soldering step (Col. 6, line 56) using a soldering unit (3); and a mounting inspection step (Col. 6, lines 58-60) using a third inspection unit (11); wherein the presence of any abnormal operation in at least one of the printer, the component mounting unit, the soldering unit is determined based on at least one of the solder position detection result, the component position detection result, and the mounting inspection result while executing the steps (Col. 8, lines 23-39); and an inspecting step before the printing (138/148, see Fig. 15) for inspecting the electrode and evaluating positional deviation of the electrode (Fig. 2, Col. 18, lines 15-30).

Regarding claim 7, Satou et al disclose the updating of the main controller based on feedback or feedforward processing of the solder position detection result and the component position detection result (Figs. 4-8, Col. 19, line 61 to Col. 20, line 7)

Response to Arguments

6. Applicant's arguments with respect to claims 1-6 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Art Unit: 3729

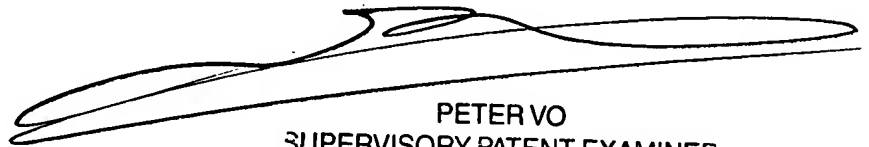
8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Donghai D. Nguyen whose telephone number is (703) 305-7859.

The examiner can normally be reached on Monday-Friday (9:00-6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter D. Vo can be reached on (703) 308-1789. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1148.

DN

A handwritten signature in black ink, appearing to read 'Peter Vo', is written over a horizontal line.

PETER VO
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3700